Are two authors better than one? Can writing in pairs affect the readability of academic blogs?

James Hartley & Guillaume Cabanac

Abstract. The literature on academic writing suggests that writing in pairs leads to more readable papers than writing alone. We wondered whether academic blog posts written alone or in pairs would vary in style. We collected a corpus of 104 posts published with the LSE Impact of the Social Sciences blog. We found no differences in average sentence length between single- and co-authored posts. However, the posts written in pairs were slightly less readable than the single-authored posts, which challenges the current view on the advantages of writing in pairs.

Keywords: Academic writing, Blogging, Coauthorship, Text Readability

In an earlier (unpublished) study we examined the readability of blogs written by individual men and women and published on the LSE Impact of Social Science Blog (http://*blogs.lse.ac.uk/impactofsocialsciences*). In the event we found no significant differences between them. However, in view of the current interest in the effects of writing alone versus writing with others (see links below) we extended our study to compare the readability of academic blogs written by single and pairs of academic authors.

Our method in this present study was to continue that used in our earlier research. Indeed we have used the data from that first enquiry to provide our measure of the readability of blogs of individual authors. In this paper, however, we have added to these data the new data that we have obtained from examining blogs written by pairs of authors (see online supporting information).

In both of our studies our procedure was to download an appropriate blog, delete any headings, lists, illustrations and extraneous information (such as notes on the authors) and to use the *https://readability-score.com* website to calculate the Flesch readability score (Flesch, 1948) of the remaining text. The data for the single authors were obtained between May 2012 and June 2013 and those for pairs between July 2013 and April 2016 – indicating that there are many fewer pairs of authors writing blogs than single ones.

Table 1 shows the results that we found. An independent-samples t-test was conducted to compare average sentence lengths in blogs authored by individuals versus by pairs of authors. There was no significant difference in average sentence lengths of single-authored blogs (M = 23.2 words, SD = 4.4) and blogs written in pairs (M = 23.6 words, SD = 5.7); $t(102) = -0.41$, $p = 0.685$. These results

suggest that these blogs had similar average sentence lengths regardless of whether or not they were written by single or pairs of authors.

A second independent-samples t-test was conducted to compare the readability scores of the blogs authored by individuals *versus* those by pairs of authors. Here there was, somewhat surprisingly, a significant difference between the readability scores of the single-authored blogs (M = 41.3, SD = 11.8) and the blogs written in pairs (M = 35.9, SD = 9.9); $t(102) = 2.51$, $p = 0.013$. These results suggest that the blogs written by the single authors were easier to understand than their counterparts written in pairs, an unexpected result.

Table 1. Mean Flesch readability scores and standard deviations for the blogs written by 52 single and 52 pairs of authors, together with mean average sentence lengths (in words) and standard deviations.

	Flesch Scores[1]		Average sentence lengths (in words)	
	Singles	Pairs	Singles	Pairs
Mean	41.3	35.9	23.2	23.6
s.d.	11.8	9.9	4.4	5.7

[1]Flesch scores range from 0-100 and higher scores indicate that the text is easier to read. However, see Hartley (2016a) for difficulties in measuring readability.

How do these results compare with findings from other studies of writing in pairs or groups? In point of fact we know of no studies of the actual *readability* of texts produced by different numbers of authors, despite the considerable discussion about the advantages and disadvantages of writing with others. Table 2 summarises some of the main points of this wider discussion.

Table 2. Advantages and disadvantages of different ways of writing in pairs. (See, e.g., Hartley, 2008; Hartley, 2016b; Hartley & Cabanac, 2015; Hu, Chen and Liu, 2014; Speck, Johnson, Dice and Heaton, 1999; Thelwall & Sud, 2015; Zhao, Zhang and Wang, 2014.)

Advantages

Each person may act as editor for the other

Each person may have different skills/knowledge that can be pooled together

When an article is written by partners with different nationalities one (preferably a native of the language of the publication) is better placed to check the language

Writing in pairs with different writing abilities may be helpful for novice writers

New technology facilitates working together from different countries and institutions

Papers by joint-authors are often cited more than papers by single ones

Disadvantages

Problems arise if colleagues don't agree

Production can be slowed down if one person has many other commitments

Problems arise if the work of one of the authors is not as competent as that of the other

There may be potential hassles over who will be designated first author

As readers/researchers we do not know from the finished article who contributed what (although today some journals do provide this information)

Indeed, the possibilities for different kinds of co-operation are numerous and generally these are not reported in the authors' publications. Here are some:

No real collaboration – one author writes it all and the other(s) agree(s) to it

Different authors write different parts according to their expertise, and the lead author is responsible for the whole

Some authors exchange drafts sequentially, but some work together on the same screen (via the wonders of new technology)

The conventions for listing the names of the authors differ in different countries and different disciplines (Frandsen & Nicolaisen, 2010). In Psychology, for instance, it is usual to put the lead author first, whereas in some subjects (e.g., Maths) it is conventional to put the authors in alphabetical order, and in others (e.g., Medicine) it is conventional to put the senior author last.

There are other, perhaps unexpected, findings from studies of co-authorship. Hartley (2003) and Lewison and Hartley (2005), for instance, reported that:

1. The more authors there were (in science journals) the longer (on average) were the titles of their papers.
2. The more authors there were (in science journals) the longer (on average) were the lengths of their papers; and perhaps more surprising:

3. Single authors (in science journals) used colons in their titles significantly more than did pairs of authors or groups - until the number of authors reached 12 or more - and

4. Single authors (in Psychology) acknowledged the help of colleagues and referees more than did pairs or groups of authors.

Currently it is frequently suggested that articles written by pairs or groups of authors are cited more than articles written by single authors (see Gazni & Thelwall, 2014; Hartley & Cabanac, 2015; Thelwall & Sud, 2016) but we are of the view that many of these studies have not been adequately controlled (Hartley 2016b). Furthermore, as suggested by Bornmann & Haunschild (2016), if two or more authors share a publication, then it seems likely that each of them will individually cite this paper in other articles, thus increasing the number of citations to the original paper.

Now that joint writing is facilitated by new technology we anticipate an even greater upsurge in the number of multi-authored papers. However, based on the results presented here, we do not anticipate that blogs written by joint authors will be any easier to read than those written by single ones!

References

Bornmann, L. & Haunschild, R. (2016, in press). Relative citation ratio (RCR): An empirical attempt to study a new field-normalized bibliometric indicator. *Journal of the Association of Information Science and Technology.* doi: 10.1002/asi.23729

Flesch, R. (1948). A new readability yardstick. *Journal of Applied Psychology*, *32*, 3, 221–233. doi: 10.1037/h0057532

Gazni, A. & Thelwall, M. (2014). The long-term influence of collaboration on citation patterns. *Research Evaluation, 23,* 3, 261-271. doi: 10.1093/reseval/rvu014

Hartley, J. (2003). Single authors are not alone: Colleagues often help. *Journal of Scholarly Publishing, 34,* 2, 108-113. doi: 10.3138/jsp.34.2.108

Hartley, J. (2008). *Academic writing and publishing.* London: Routledge.

Hartley J. (2016a). Is time up for the Flesch measure of Reading Ease? *Scientometrics, 107*, 3, 1523-1526. doi: 10.1007/s11192-016-1920-7.

Hartley, J. (2016b). Is it true that papers written by joint-authors are cited more than articles written by single ones? What else matters? *Scientometrics*, *106*, 2, 817-818. doi: 10.1007/s11192-015-1799-8.

Hartley, J. & Cabanac, G. (2015). An academic odyssey: Writing over time. *Scientometrics, 103,* 3, 1073-1082. doi: 10.1007/s11192-015-1562-1.

Hu, Z., Chen, C. & Liu, Z. (2014). How are collaboration and productivity correlated at various career stages of scientists? *Scientometrics, 101,* 2, 1553-1564. doi: 10.1007/s11192-014-1323-6.

Lewison, G. & Hartley, J. (2005). What's in a title? Number of words and the presence of colons. *Scientometrics, 63,* 2, 341-356. doi: 10.1007/s11192-005-0216-0.

Speck, B. W., Johnson, T. R., Dice, C. P. & Heaton, L. B. (1999). *Collaborative writing: An annotated bibliography.* Westport CT: Greenwood Press.

Thelwall, M. & Sud, P. (2016). National, disciplinary and temporal variations in the extent to which articles with more authors have more impact: Evidence from a geometric field normalised citation indicator. *Journal of Informetrics, 10,* 1, 48-61. doi: 10.1016/j.joi.2015.11.007.

Zhao, L. M., Zhang, Q. P. & Wang, L. (2014). Benefit distribution mechanism in team members' scientific research collaboration network. *Scientometrics, 100*, 2, 363-389. doi: 10.1007/s11192-014-1322-7.